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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,856	06/25/2001	Daren L. Dance	1192	1987

7590 12/29/2004

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EXAMINER

STEVENS, THOMAS H

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,856

Applicant(s)

DANCE ET AL.

Examiner

Thomas H. Stevens

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-44 were examined.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-44 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The following disclosure of the specification (pg. 7, lines 5-9) is unclear; clarification is requested.

“production system”. : *A production system need not produce anything by itself: a production system may simply test the output produced by another production system. The production system may be made up of one or more tool groups, logically related to one another in some way. Each tool group may be made up of one or more tools. Each tool may simultaneously process one or more units of the production process.*

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Bermon et al., (U.S. Patent 5,946,212, (1999)). Bermon et al., teaches a computer implemented method providing accurate capacity planning for manufacturing environments comprising parallel, unrelated tools that can process the same operations at different rates and with preferences for the sequence in which those tools are selected to accommodate the workload (abstract).

Claim 1. A method of simulating operation (column 1, lines 40-65) of a production system comprising a first set of at least one tool (column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4) controlled by a second set of at least one tool, the method comprising: receiving a quantity of time during which the second set of at least one tool is not able control the first set of at least one tool (column 2, lines 43-52); and calculating at least one production quantity (column 1, lines 31-34) affected by the first set quantity of time received (column 4, lines 31-40).

Claim 2. The method of claim 1 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 31-40) wherein the quantity of time at least one tool responsive to the received is a quantity of time at least one of the tools in the second set is not operational (column 4, lines 44-50).

Claim 3. The method of claim 1 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 31-40) wherein at least one of the tools in the first set comprises a production processing tool (column 4, lines 23-26).

Claim 4. The method claim 1 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column

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4, lines 31-40) wherein the quantity of time comprises a percentage (column 4, lines 64-67).

Claim 5. The method of claim 1 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 31-40) wherein the production quantity comprises a throughput (column 4, lines 33-37).

Claim 6. The method of claim 1 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 31-40) wherein the production quantity comprises a good unit equivalents produced per unit of time (column 4, lines 33-40).

Claim 7. The method of claim 1 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 31-40) wherein: the production process comprises a plurality of sets at least one tool, comprising the first set and the second set and a third set; and the production quantity additionally calculated responsive quantity related to the third set of least one tool (column 4, lines 23-26).

Claim 8. The method of claim 7 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 23-26; column 4, lines 31-40) wherein the production quantity comprises at least one selected from: number of products provided to at least one of the plurality of sets of at least one tool (column 5, lines 19-35); and number of products provided by at least one of the plurality of sets of at least one tool (availability: column 4, lines 5-19).

Claim 9. The method of claim 7 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 23-26; column 4, lines 31-40) wherein the production quantity comprises: a number of products provided to at least one of the plurality of sets of at least one tool (columns 14-15, claim 1); and number of products provided by at least one the plurality of sets of at least one tool (column 15, claim 2, lines 40-42).

Claim 10. The method of claim 7 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 23-26; column 4, lines 31-40) wherein the quantity comprises plurality of sets of at least one unit produced by said at least one tool production an amount of time at least one of the takes to process a unit produced by said at least one tool (column 5, lines 26-36).

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Claim 11. The method of claim 7(column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 23-26; column 4, lines 31-40) wherein the production quantity comprises an average amount of time at least one tool in at least one of the plurality of sets takes to process a unit produced by said at least one tool in the set (column 16, claim3, lines 16-40).

Claim 12. The method of claim 7(column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 23-26; column 4, lines 31-40) wherein the production quantity comprises a number of tools in at least one of the plurality of sets of at least one tool responsive to at least one capacity (column 1, lines 40-65 with column 12, lines 50-67).

Claim 13. The method of claim 7 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 23-26; column 4, lines 31-40) wherein the production quantity comprises a percent of utilization of the at least one tool at least one of the plurality of sets (following data is maneuverable for this computation: column 4, lines 30-40).

Claim 14. The method of claim 7 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 23-26; column 4; lines 31-40) wherein the production quantity comprises a

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number of sets performing a same step in the production system in the plurality of sets (following data is maneuverable for this computation: column 4, lines 30-40).

Claim 15. The method of claim 14 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 23-26; column 4, lines 31-40) wherein each of the number of sets comprises a same number of tools (column 13, lines 3-8).

Claim 16. A computer program product comprising (column 1, lines 40-65) a computer useable medium having computer readable program code (column 14, lines 9-14) embodied therein for simulating operation of a production system comprising a first set of at least one tool controlled by a second set of at least one tool, (column 4, lines 44-50) the computer program product comprising computer readable program code devices configured to cause a computer to: receive a quantity of time during the second set of at least one tool (column 4, lines 44-50) is not able to control the first set of at least one tool (column 4, lines 7-16); and calculate at least one production quantity affected by the first set of at least one tool responsive to the quantity of time received (column 15, claim 15, lines 16-19).

Claim 17. The computer program product of claim 16 (column 1, lines 40-65; column 14, lines 9-14; column 4, lines 44-50; column 15, claim 15, lines 16-19) wherein the quantity

of time received is a quantity of time at least one of the tools in the second set is not operational (column 4, lines 7-16).

Claim 18. The computer program product of claim 16 (column 1, lines 40-65; column 14, lines 9-14; column 4, lines 44-50; column 15, claim 15, lines 16-19) wherein at least one of the tools in the first set comprises production processing tool (column 4, lines 23-26).

Claim 19. The computer program product of claim 16 (column 1, lines 40-65; column 14, lines 9-14; column 4, lines 44-50; column 15, claim 15, lines 16-19) wherein the quantity time comprises percentage (column 4, lines 64-67).

Claim 20. The Computer program product of claim 16 (column 1, lines 40-65; column 14, lines 9-14; column 4, lines 44-50; column 15, claim 15, lines 16-19) wherein the production quantity comprises a throughput (column 4, lines 33-37).

Claim 21. The computer program product of claim 16 (column 1, lines 40-65; column 14, lines 9-14; column 4, lines 44-50; column 15, claim 15, lines 16-19) wherein the production quantity comprises a good unit equivalents produced per unit of time (column 4, lines 33-40).

Claim 22. The computer program product (column 1, lines 40-65) of claim wherein: the production process comprises a plurality of sets of at least one tool, (column 4, lines 44-

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50) comprising the first set and the second set and a third set (column 4, lines 7-16); and the production quantity is additionally calculated responsive to a quantity related to the third set of at least one tool (column 4, lines 7-16).

Claim 23. The computer program product of claim 22 (column 1, lines 40-65; column 4, lines 44-50; column 4, lines 7-16; column 4, lines 7-16) wherein the production quantity comprises at least one selected from: a number of products provided to at least one of the plurality of sets of at least one tool (column 4, lines 7-16); and number of products provided by at least one the plurality of sets of at least one tool (columns 3-4, lines 64-67 and 1-4, respectively).

Claim 24. The computer program product of claim 22 (column 1, lines 40-65; column 4, lines 44-50; column 4, lines 7-16; column 4, lines 7-16; column 4, lines 7-16; columns 3-4, lines 64-67 and 1-4, respectively) wherein quantity comprises: a number of products provided to at least one of the plurality of sets of at least one tool (columns 3-4, lines 64-67 and 1-4, respectively); and a number of products provided by at least one of the plurality of sets at least one tool (column 16, claim 3, lines 16-40).

Claim 25. The computer claim 22 (column 1, lines 40-65; column 4, lines 44-50; column 4, lines 7-16; column 4, lines 7-16; column 4, lines 7-16; columns 3-4, lines 64-67 and 1-4, respectively; column 16, claim 3, lines 16-40) wherein the production quantity comprises an amount of time at least one of the plurality of sets of at least one tool

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takes process a unit produced by said at least one tool (availability: column 4, lines 5-19).

Claim 26. The computer program product of claim 22 (column 1, lines 40-65; column 4, lines 44-50; column 4, lines 7-16; column 4, lines 7-16; column 4, lines 7-16; columns 3-4, lines 64-67 and 1-4, respectively; column 16, claim3, lines 16-40) wherein the production quantity comprises an average least one tool at least one of the plurality of sets at least one tool; and at least one of the plurality of sets takes to process a unit produced by said at least one tool in the set (column 16, claim3, lines 16-40)

Claim 27. The computer program product of claim 22, (column 1, lines 40-65; column 4, lines 44-50; column 4, lines 7-16; column 4, lines 7-16; column 4, lines 7-16; columns 3-4, lines 64-67 and 1-4, respectively; column 16, claim3, lines 16-40) wherein the production quantity comprises a number of tools in at least one of the plurality of sets of at least one tool responsive to at least one capacity (column 18, claim 18, lines 17-22).

Claim 28. The computer program product of claim 22 (column 1, lines 40-65; column 4, lines 44-50; column 4, lines 7-16; column 4, lines 7-16; column 4, lines 7-16; columns 3-4, lines 64-67 and 1-4, respectively; column 16, claim3, lines 16-40) wherein the production quantity comprises a percent of utilization of the at least one tool in at least one of the plurality of sets (following data is maneuverable for this computation: column 4, lines 30-40).

Claim 29. The computer program product of claim 22 (column 1, lines 40-65; column 4, lines 44-50; column 4, lines 7-16; column 4, lines 7-16; column 4, lines 7-16; columns 3-4, lines 64-67 and 1-4, respectively; column 16, claim3, lines 16-40) wherein the production quantity comprises a number of sets performing a same step in the production system in the plurality of sets (column 1, lines 40-65; column 4, lines 44-50; column 4, lines 7-16; column 4, lines 7-16; column 4, lines 7-16; columns 3-4, lines 64-67 and 1-4, respectively; column 16, claim3, lines 16-40).

Claim 30. The computer program product of claim 29 (column 1, lines 40-65; column 4, lines 44-50; column 4, lines 7-16; column 4, lines 7-16; column 4, lines 7-16; columns 3-4, lines 64-67 and 1-4, respectively; column 16, claim3, lines 16-40) wherein each of the number of sets comprises a same number of tools (column 13, lines 3-8).

Claim 31. An apparatus of simulating (column 1, lines 40-65) operation of a production system comprising a first set of at least one tool (column 5, lines 19-25; and columns 3-4, lines 65-67, lines1-4) controlled by a second set of at least one tool, (column 2, lines 43-52) the apparatus comprising: tool parameter manager having at least one input for receiving a quantity of time during which the second set of at least one tool is not able to control the first set of at least one tool; and production quantity calculator coupled to the tool calculating and providing at an parameter manager output at least one production quantity (column 1, lines 31-34) affected by the first set of at least one tool responsive to the quantity time received (column 4, lines 31-40).

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Claim 32. The apparatus of claim 31 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 31-40) wherein the quantity of time received is a quantity of time at least one of the tools in the second set is not operational (column 4, lines 7-19).

Claim 33. The apparatus of the tools in the first set claim 31 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 31-40) wherein at least one of comprises a production processing tool (column 4, lines 23-26).

Claim 34. The apparatus of claim 31 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 31-40) wherein the quantity of time comprises a percentage (column 4, lines 64-67).

Claim 35. The apparatus the production claim 31 (column 1, lines 40-65; column 5, lines 19-25; and columns 3-4, lines 65-67, lines 1-4; column 2, lines 43-52; column 1, lines 31-34; column 4, lines 31-40) wherein: quantity calculator comprises a group throughput calculator (following data is maneuverable for this computation: column 4, lines 30-40); and the production quantity comprises a throughput (following data is maneuverable for this computation: column 4, lines 30-40 with column 15, claim 2, lines 40-42).

Claim 36. The apparatus the production claim 31 (column 4, lines 33-40) wherein: quantity calculator comprises a group good ("good group" not address, vague) units calculator; and production quantity comprises a good unit equivalents produced per unit of time (column 4, lines 33-40).

Claim 37. The apparatus claim 31(column 4, lines 33-40) wherein: the production process comprises a plurality of sets least one comprising the first set and the second set and a third set (column 4, lines 7-16); and the production quantity is additionally calculated responsive to a quantity related to the third set of at least one tool (column 4, lines 7-16).

Claim 38. The apparatus of claim 37 (column 4, lines 33-40; column 4, lines 7-16; column 4, lines 7-16) wherein: the production quantity calculator comprises a simulator (column 1, lines 40-65 with column 12, lines 50-67); and the production quantity comprises at least one selected from: a number of products provided to at least one of the plurality of sets of at least one of the plurality of sets of at least one tool (column 5, lines 19-35); and a number of products provided by at least one of the plurality of sets of at least one tool (availability: column 4, lines 5-19).

Claim 39. The apparatus of claim 37(column 4, lines 33-40; column 4, lines 7-16; column 4, lines 7-16) wherein: the production quantity calculator comprises a simulator (column 1, lines 40-65 with column 12, lines 50-67); and the production quantity

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comprises: a number of products provided to least one tool (availability: column 4, lines 5-19); and least one of the plurality of sets one tool (column 5, lines 19-35).

Claim 40. The apparatus of claim 37(column 4, lines 33-40; column 4, lines 7-16; column 4, lines 7-16) wherein: the production quantity calculator comprises a step process time calculator (column 1, lines 40-65 with column 12, lines 50-67); and the production quantity comprises an amount of time at least one of the plurality of sets of at least one tool takes to process a unit produced by said at least one tool (availability: column 4, lines 5-19).

Claim 41. The apparatus of claim 37(column 4, lines 33-40; column 4, lines 7-16; column 4, lines 7-16) wherein: the production quantity calculator comprises a process time rate and units calculator (column 1, lines 40-65 with column 12, lines 50-67); and the production quantity comprises an average amount of time (column 4, lines 30-40) at least one tool in at least one of the plurality of sets takes to process a unit produced by said at least one tool in the set (column 16, claim3, lines 16-40).

Claim 42. The apparatus of claim 37 (column 4, lines 33-40; column 4, lines 7-16; column 4, lines 7-16) wherein: the production quantity calculator comprises a tools requirement calculator (column 1, lines 40-65 with column 12, lines 50-67); and the production quantity comprises a number of tools in at least one of the plurality of sets of

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at least one tool responsive to at least one capacity (column 1, lines 40-65 with column 12, lines 50-67).

Claim 43. The apparatus of claim 37 (column 4, lines 33-40; column 4, lines 7-16; column 4, lines 7-16) wherein: the production quantity calculator comprises a utilization calculator (following data is maneuverable for this computation: column 4, lines 30-40); and the production quantity comprises a percent of utilization of the at least one tool in at least one of the plurality of sets (following data is maneuverable for this computation: column 4, lines 30-40).

Claim 44. The apparatus of claim 37 (column 4, lines 33-40; column 4, lines 7-16; column 4, lines 7-16) wherein: the production quantity calculator comprises a number of cells/tools calculators (following data is maneuverable for this computation: column 4, lines 30-40); and the production quantity comprises a number of sets performing a same step in the production system in the plurality of sets (following data is maneuverable for this computation: column 4, lines 30-40).

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is (571) 271-0365, Monday-Friday (8:00 am- 4:30 pm) or contact Supervisor Mr. Kevin Teska at (571) 272-3716. The centralized fax number is 703-872-9306 or examiner's telephone (comes through via Rightfax).

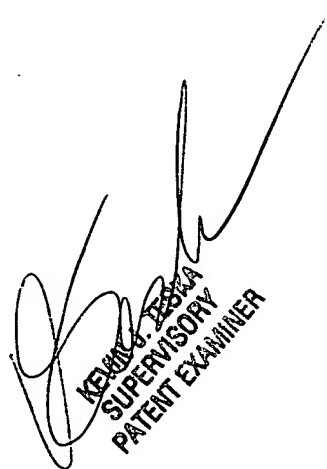
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Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (571) 272-1400

December 17, 2004

THS



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